US005406304A

United States Patent [19]

Shirayama

[11] Patent Number: 5,406,304

[45] Date of Patent: Apr. 11, 1995

[54] **FULL COLOR LIQUID CRYSTAL DRIVER**

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[21] Appl. No.: **261,039**

[22] Filed: **Jun. 14, 1994**

Related U.S. Application Data

[63] Continuation of Ser. No. 936,284, Aug. 28, 1991, abandoned.

[30] **Foreign Application Priority Data**

Aug. 28, 1991 [JP] Japan 3-242800

[51] **Int. Cl.**[6] **G09G 3/36**

[52] **U.S. Cl.** **345/98**; 345/196

[58] **Field of Search** 345/98, 100, 97, 87, 345/99, 103, 196, 197, 200; 348/790, 791

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[57] **ABSTRACT**

A full color liquid crystal driver which includes a line memory for dividing an input video signal for each horizontal scan period into n groups and expanding each divided signal to n folds, n amplifiers for amplifying the output signals of the line memory to be voltages necessary to drive a liquid crystal display element, and n signal output circuits. Given that the number of horizontal pixels of the liquid crystal display element is x and the horizontal scan period is t, the necessary operation frequency for the amplifiers and signal output circuits becomes 1/(n(t/x)), which is lower by 1/n than the operation frequency necessary for the amplifiers and signal output circuits of prior art. In the case where the number of horizontal pixels is significantly increased in a conventional active matrix type liquid crystal display element, providing full color display requires very-fast amplifiers and very-fast signal output circuits for applying a voltage to the liquid crystal display element. The present invention can still use amplifiers and signal output circuits both functioning at the normal speed to easily drive a liquid crystal display element having a vast number of horizontal scan period.

3 Claims, 7 Drawing Sheets